ADEM GENERAL PERMIT RATIONALE
LANDFILL
ALG160000

DATE: **April 4, 2011**

PREPARED BY: **Lee Warren**

LOCATION: ALL WATERS OF THE STATE NOT DESIGNATED OUTSTANDING NATIONAL RESOURCE WATER, OUTSTANDING ALABAMA WATER, OR TREASURED ALABAMA LAKE

PERMIT IS REISSUANCE DUE TO EXPIRATION

DISCUSSION:

The Department is proposing to reissue NPDES General Permit ALG160000. The permit is intended to cover storm water, not containing leachate, from active and inactive landfills and from transfer stations including storm water runoff from land disturbance activities associated with opening and closing cells at landfills, exterior vehicle and equipment wash water and storm water from petroleum storage and handling and equipment storage and maintenance areas.

The regulations established under 40 CFR 445 Subpart B do not apply because permit conditions do not allow the discharge of landfill wastewater. Under the discharge monitoring requirements applicable to all discharges, the General Permit states that it does not allow for the discharge of landfill wastewater as defined by 40 CFR Part 445.2 (f). The 40 CFR Part 445.2 (f) definition of landfill wastewater is also included in the definition section of the permit.

Storm water discharges from land disturbance activities associated with opening and closing cells are addressed by this General Permit. These land disturbance activities may include digging for cover material within the permitted landfill area, but not outside of that permitted area.

NOTE: The parameters for each of the following discharges, i.e. DSN#...., are proposed to be continued in this permit, as in the previous permit, unless otherwise noted.

DSN001 All storm water discharges which do not contain leachate from active or inactive landfills, including land disturbance activities associated with opening and closing cells at landfills. This outfall requires monitoring and/or limitations for the following parameters:

Rainfall

The amount of rainfall occurring during the monitored rain event is to be reported in inches. Monitoring frequency is 1/6 months.

pH pH limits are not imposed for storm water discharges as the permittee should not be influencing the pH of the effluent, and pH levels should not cause receiving stream water quality to be violated. Monitoring frequency is 1/6 months.

Biochemical Oxygen Demand, 5 day

The only part of the biochemical oxygen demand which should exert an oxygen demand on a receiving stream is the organic portion which is measured as biochemical oxygen demand. The monitoring of BOD is used to measure the effectiveness of the BMP plan. Monitoring frequency is 1/6 months.

Chemical Oxygen Demand (COD)

COD serves as a measure of the presence of reducing chemical compounds in the storm water runoff from spills or exposure of fuel, paint, or solvents. The COD parameter will also measure the presence of reducing biological wastes and is selected in addition to biochemical oxygen demand (BOD_5) for this reason. No limitations are proposed. Monitoring will be used to evaluate the BMP plan effectiveness. Monitoring frequency is 1/year.

Cadmium, Chromium, and Copper, Total

These metals are constituents that are present in leachate and waste being disposed at landfills and their presence at high concentrations could be indicative of storm water contamination and/or the presence of leachate. This monitoring information will also be used to trace the effectiveness of their BMP plan. Monitoring frequency is 1/6 months.

Oil and Grease

The oil and grease daily maximum limit is 15 mg/l. This limit has been demonstrated through experience by the Department to be best conventional technology (BCT) to be achievable by gravity oil/water separators; however, to further ensure adequate oil removal occurs, a requirement for no oil sheen is also imposed. Monitoring frequency is 1/6 months.

Settleable Solids, Total Dissolved Solids, Total Suspended Solids

To detect the presence of leachate or significant pollution from uncovered waste, monitoring will be required for settleable solids, total dissolved solids, and total suspended solids. These substances are generally present in leachate and waste being disposed of at a landfill and their presence at high concentrations could be indicative of contamination of storm water. This monitoring information will also be used to track the effectiveness of their BMP plan. Monitoring frequency for total dissolved solids, and total suspended solids is 1/6 months. The monitoring frequency for settleable solids is 1/6 months for landfills during periods when land disturbance activities associated with opening and closing cells are occurring. However, if the landfill discharges to impaired waters as identified by an EPA-approved or EPA established TMDL and/or State of Alabama's 303(D) list, then the monitoring frequency for settleable solids is 1/quarter for landfills during periods when land disturbance activities associated with opening and closing cells are occurring.

Turbidity

Monitoring of upstream and downstream turbidity is required when expansion construction activities are occurring. The difference in the upstream and the downstream turbidity can not exceed 50 Nephelometric units. ADEM Code 335-6-10-.09 (9) set down the guidelines for water quality standards for turbidity and states that in no case shall turbidity exceed 50 Nephelometric units above background. Monitoring frequency is 1/6 months for landfills during periods when land disturbance activities associated with opening and closing cells are occurring. However, if the landfill discharges to impaired waters as identified by an EPA-approved or EPA established TMDL and/or State of Alabama's 303(D) list, then the monitoring frequency is 1/quarter for landfills during periods when land disturbance activities associated with opening and closing cells are occurring.

DSN002 Storm water runoff from petroleum storage and fueling areas. This outfall is being added to the permit and requires certain monitoring and/or limitations for the following parameters if the Department deems necessary.

Rainfall

The amount of rainfall occurring during the monitored rain event is to be reported in inches. Monitoring frequency is 1/quarter.

pH pH limits are not imposed for storm water discharges as the permittee is not influencing the pH of the effluent, and pH levels should not cause receiving stream water quality to be violated. Monitoring frequency is 1/quarter.

Benzene (Facilities that discharge into a body of water which is designated as a public water supply)

The Department is proposing a daily maximum limit of 1.12 μg/l for benzene. This limit is based on the benzene human health (consumption of fish and water) standard for streams designated as public water supply as set forth at ADEM Administrative Code R. 335-6-10. A limit of 1.12 μg/l for benzene should be protective of water quality. Monitoring frequency is 1/ quarter.

Benzene (All other areas)

The Department is proposing a limit of 15.5 μg/l for benzene. The human health (consumption fish only) standard for benzene is now 15.5 μg/l and should be protective of water quality. Monitoring frequency is 1/ quarter.

Ethylbenzene (Facilities that discharge into a body of water which is designated as a public water supply)

The Department is proposing a daily maximum limit of 448 μg/l for ethylbenzene. This limit is based on the ethylbenzene human health (consumption of fish and water) standard for streams designated as public water supply as set forth at ADEM Administrative Code R. 335-6-10. A limit of 448 μg/l for ethylbenzene should be protective of water quality. Monitoring frequency is 1/ quarter.

Ethylbenzene (All other areas)

The Department is proposing a limit of 1,244 μg/l for ethylbenzene. The human health (consumption fish only) standard for ethylbenzene is 1,244 μg/l and should be protective of water quality. Monitoring frequency is 1/ quarter.

Toluene (Facilities that discharge into a body of water which is designated as a public water supply)

The Department is proposing a daily maximum limit of 1,206 μg/l for toluene. This limit is based on the toluene human health (consumption of fish and water) standard for streams designated as public water supply as set forth at ADEM Administrative Code R. 335-6-10. A limit of 1,206 μg/l for toluene should be protective of water quality. Monitoring frequency is 1/ quarter.

Toluene (All other areas)

The Department is proposing a limit of 8,723 μg/l for toluene. The human health (consumption fish only) standard for toluene is 8,723 μg/l and should be protective of water quality. Monitoring frequency is 1/ quarter.

Xylene

The results of xylene will be used to track the effectiveness of the permitee's BMP plan. Monitoring frequency is 1/ quarter.

Total Recoverable Lead

The Department is proposing an effluent lead daily maximum limit of 2.5 μg/l total recoverable lead. This limit is based on the chronic water quality standard set forth in ADEM Administrative Code R. 335-6-10-.07-4.(ii) . Monitoring for lead will be required only if contamination is associated with leaded fuels. Monitoring frequency is 1/ quarter.

Naphthalene

The naphthalene daily maximum limit is 620 μg/l. In the absence of state water quality criteria for naphthalene, this limit is based on information contained in the EPA Quality Criteria for Water 1986 Document (EPA 440/5-86-001) May 1, 1986. This limitation has also been shown to be protective of water quality. While naphthalene is insoluble in water it is soluble in both benzene and toluene. Therefore, if benzene is sufficiently removed using BAT technology, the naphthalene should also be removed. Monitoring for naphthalene will only be required at facilities which handle aviation fuel, jet fuel or diesel fuel. Monitoring frequency is 1/ quarter.

Oil and Grease

The oil and grease daily maximum limit is 15 mg/l. This limit has been demonstrated through experience by the Department to be best conventional technology (BCT) to be achievable by gravity oil/water separators; however, to further ensure adequate oil removal occurs, a requirement for no oil sheen is also imposed. Monitoring frequency is 1/ quarter.

MTBE (methyl tertiary butyl ether)

MTBE is an oxygenate that is added to fuel and is found at many petroleum release sites. The results of MTBE monitoring will be used to track the effectiveness of the permitee's BMP plan. Monitoring frequency is 1/ quarter.

DSN003 Discharge limitations and monitoring requirements for uncontaminated storm water from equipment maintenance and storage and petroleum storage and handling areas. This outfall requires monitoring and/or limitations for the following parameters:

Monitoring requirements for storm water from facilities where fueling is the only industrial activity and the storm water from the fueling area does not mix with other discharges have been reduced to best management practices (BMP). This is based on field observation and recognizes that the only potential for storm water pollution resulting from fueling is best controlled by cleaning up spilled product immediately. Facilities which meet the reduced monitoring requirements must have a BMP Plan in place which addresses the fueling area and they must have a valid SPCC Plan, if required by 40 CFR Part 122.

DSN004 Exterior vehicle, automobile, and exterior washing operations that do not use solvents and have not come in direct contact with solid waste at the landfill facility. The permit includes a footnote under this outfall that it does not allow for the discharge of landfill wastewater as defined by 40 CFR Part 445.2 (f). This outfall requires monitoring and/or limitations for the following parameters:

Flow Flow is to be measured in gallons per day. Monitoring frequency is 1/week.

pH pH limitations are 6.0 daily minimum and 8.5 daily maximum for waste water discharges as set forth in ADEM Administrative Code R. 336-6-10. Monitoring frequency is 1/month.

Oil and Grease

See DSN001. Monitoring frequency is 1/month.

Phosphorus, Total

Excessive phosphorus can cause eutrophication in a receiving stream. A limit of 1.0 mg/l is a common limit used to protect against eutrophication and also to discourage the use of phosphorus based detergents. The limit was taken from, "Process Design Manual for Phosphorus Removal" EPA 625/1-76-001a. Monitoring frequency is 1/month.

Total Suspended Solids

The daily maximum limit is 50 mg/l. Monitoring of TSS is included to ensure the use of BMPs. Using BMPs, a limit of 50mg/l should be achievable. Monitoring frequency is 1/month.